

WHAT IS CLAIMED IS:

1. A method of detecting a cancerous cell expressing the polynucleotide of SEQ ID NO: 23 in a biological sample, comprising

a) contacting the sample with a labeled polynucleotide complementary to said polynucleotide of SEQ ID NO: 23 or a fragment thereof for a period sufficient to form a complex; and

b) detecting the complex, so that if a complex is detected, the cell is detected.

2. The method of claim 1 wherein the polynucleotide fragment comprises nucleotides 268 to 1866 of SEQ ID NO: 23.

3. The method of claim 1, wherein the biological sample is selected from the group consisting of tissue, cell, blood, serum, lymphatic fluid, urine and cerebrospinal fluid.

4. The method of claim 1 wherein the labeled polynucleotide comprises a radioisotope, affinity label, enzymatic label or fluorescent label.

5. The method of claim 1, wherein the cancerous cell is a lung cancer cell.

6. The method of claim 1, wherein the cancerous cell is a brain cancer cell.

7. The method of claim 1, wherein the cancerous cell is a prostate cancer cell.

8. The method of claim 1, wherein the cancerous cell is a breast cancer cell.

9. The method of claim 1, wherein the cancerous cell is a skin cancer cell.

5 10. The method of claim 1, wherein the cancerous cell is a lymphoma cell.

11. The method of claim 1, wherein the cancerous cell is a sarcoma cell.

10 12. The method of claim 1, wherein the cancerous cell is as colon cancer cell.

13. A method of detecting a cancerous cell expressing the polypeptide of SEQ ID NO: 24 in a biological sample, comprising

15 a) contacting the sample with an antibody or fragment thereof that specifically binds to the polypeptide of SEQ ID NO: 24 or a fragment thereof for a period sufficient to form a complex; and

b) detecting the complex, so that if a complex is detected, the cell is detected

14. The method of claim 13, wherein the polypeptide fragment comprises the amino acids 22 to 553 of SEQ ID NO: 24.

20 15. The method of claim 13, wherein the polypeptide fragment comprises the amino acids 412 to 426 of SEQ ID NO: 24.

16. The method of claim 13 wherein the antibody is conjugated to a radioisotope, affinity label, enzymatic label or fluorescent label.

17. The method of claim 13, wherein the biological sample is selected from the group consisting of tissue, cell, blood, serum, lymphatic fluid, urine and cerebrospinal fluid.

18. The method of claim 13, wherein the cancerous cell is a brain cancer cell.

19. The method of claim 13, wherein the cancerous cell is a prostate cancer cell.

20. The method of claim 13, wherein the cancerous cell is a breast cancer cell.

21. The method of claim 13, wherein the cancerous cell is a skin cancer cell.

22. The method of claim 13, wherein the cancerous cell is a lymphoma cell.

23. The method of claim 13, wherein the cancerous cell is a sarcoma cell.

24. The method of claim 13, wherein the cancerous cell is as colon cancer cell.

25. A method of inhibiting proliferation of a cancer cell, comprising the step of contacting said cell with an antibody or fragment thereof that specifically binds the polypeptide of SEQ ID NO: 24.

26. The method of claim 24 wherein the antibody or fragment thereof binds to the mature protein of SEQ ID NO: 24.

27. A method of inhibiting proliferation of a cancer cell, comprising the step of contacting said cell with an antisense polynucleotide that specifically binds a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24.

28. The method of claim 25 or 27, wherein said cell is present in a subject suffering from cancer.

29. The method of claim 25 or 27, wherein the cancer cell is a brain cancer cell.

30. The method of claim 25 or 27, wherein the cancer cell is a prostate cancer cell.

31. The method of claim 25 or 27 wherein the cancer cell is a breast cancer cell.

32. The method of claim 25 or 27, wherein the cancer cell is a skin cancer cell.

33. The method of claim 25 or 27, wherein the cancer cell is a lymphoma cell.

34. The method of claim 25 or 27, wherein the cancer cell is a sarcoma cell.

35. The method of claim 25 or 27, wherein the cancer cell is as colon cancer cell.

36. The method of claim 25 or 27, wherein the cancer cell is an A549 cell.

37. The method of claim 25 or 27, wherein the cancer cell is a MCF-7 cell.

38. The method of claim 25 or 27, wherein the cancer cell is a SK-N-Mc cell.

39. A method of reducing tumor size in a patient suffering from cancer, comprising the step of administering to the patient an inhibitor of the activity of the polypeptide of SEQ ID NO: 24, wherein the inhibitor specifically binds to said polypeptide.

40. A method of reducing tumor size in a patient suffering from cancer, comprising the step of administering to the patient an inhibitor of the activity of the polypeptide of SEQ ID NO: 24, wherein the inhibitor specifically binds to an EGFL6 receptor polypeptide.

41. The method of claim 39 or 40, wherein the inhibitor of the EGFL6 polypeptide activity is a peptide, small molecule, antibody or fragment thereof.

42. The method of claim 39 or 40, wherein the patient is suffering from lung cancer.

43. The method of claim 39 or 40, wherein the patient is suffering from brain cancer.

44. The method of claim 39 or 40, wherein the patient is suffering from prostate cancer.

45. The method of claim 39 or 40, wherein the patient is suffering from breast cancer.

46. The method of claim 39 or 40, wherein the patient is suffering from skin cancer.

47. The method of claim 39 or 40, wherein the patient is suffering from lymphoma.

48. The method of claim 39 or 40, wherein the patient is suffering from sarcoma.

49. The method of claim 39 or 40, wherein the patient is suffering from colon cancer.

50. A method of reducing tumor size in a patient suffering from cancer comprising the step of administering to the patient an antibody or fragment thereof that specifically binds to the polypeptide of SEQ ID NO: 24.

51. The method of claim 50 wherein the antibody or fragment thereof specifically binds the mature protein sequence of SEQ ID NO: 24.

52. A method of reducing tumor size in a patient suffering from cancer comprising the step of administering to the patient an antisense polynucleotide that specifically binds a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24.

53. The method of claim 50 or 52, wherein the patient is suffering from lung cancer.

54. The method of claim 50 or 52, wherein the patient is suffering from brain cancer.

55. The method of claim 50 or 52, wherein the patient is suffering from prostate cancer.

56. The method of claim 50 or 52, wherein the patient is suffering from breast cancer.

57. The method of claim 50 or 52, wherein the patient is suffering from skin cancer.

58. The method of claim 50 or 52, wherein the patient is suffering from lymphoma.

59. The method of claim 50 or 52, wherein the patient is suffering from sarcoma.

60. The method of claim 50 or 52, wherein the patient is suffering from colon cancer.

61. A method of inhibiting tumorigenicity in a cancer cell, comprising the step of contacting said cell with an antibody or fragment thereof that specifically binds the polypeptide of SEQ ID NO: 24.

62. A method of inhibiting tumorigenicity in a cancer cell, comprising the step of contacting said cell with an antisense polynucleotide that specifically binds a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24.

63. The method of claim 61 wherein the antibody or fragment thereof specifically binds the mature protein sequence of SEQ ID NO: 24.

64. The method of claim 61 or 63, wherein the cancer cell is a lung cancer cell.

65. The method of claim 61 or 63, wherein the cancer cell is a brain cancer cell.

66. The method of claim 61 or 63, wherein the cancer cell is a prostate cancer cell.

67. The method of claim 61 or 63, wherein the cancer cell is a breast cancer cell.

68. The method of claim 61 or 63, wherein the cancer cell is a skin cancer cell.



69. The method of claim 61 or 63, wherein the cancer cell is a lymphoma cell.

70. The method of claim 61 or 63, wherein the cancer cell is a sarcoma cell.

71. The method of claim 61 or 63, wherein the cancer cell is a colon cancer cell.

72. The method of claim 61 or 63 wherein the cancer cell is an A549 cell.

73. A pharmaceutical composition comprising an amount of an antibody or fragment thereof that specifically binds to the polypeptide sequence of SEQ ID NO: 24 in a pharmaceutically acceptable carrier, wherein the amount of antibody or fragment thereof effectively inhibits EGFL6 polypeptide activity.

74. A pharmaceutical composition comprising an amount of an antibody or fragment thereof that specifically binds to the polypeptide sequence of SEQ ID NO: 24 in a pharmaceutically acceptable carrier, wherein the amount of antibody or fragment thereof effectively inhibits tumorigenicity.

75. A pharmaceutical composition comprising an amount of an antibody or fragment thereof that specifically binds to the polypeptide sequence of SEQ ID NO: 24 in pharmaceutically acceptable carrier, wherein the amount of antibody or fragment thereof effectively reduces tumor size.

76. A pharmaceutical composition comprising an amount of an antibody or fragment thereof that specifically binds to the polypeptide sequence of SEQ ID NO: 24 in pharmaceutically acceptable carrier, wherein the amount of antibody or fragment thereof effectively inhibits proliferation of a cancerous cell.

5 77. A pharmaceutical composition comprising an amount of an antisense polynucleotide that specifically binds to a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24 in a pharmaceutically acceptable carrier, wherein the amount of antisense polynucleotide effectively inhibits EGFL6 polypeptide activity.

10 78. A pharmaceutical composition comprising an amount of an antisense polynucleotide that specifically binds to a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24 in a pharmaceutically acceptable carrier, wherein the amount of antisense polynucleotide effectively inhibits tumorigenicity.

15 79. A pharmaceutical composition comprising an amount of an antisense polynucleotide that specifically binds to a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24 in a pharmaceutically acceptable carrier, wherein the amount of anitisense polynucleotide effectively reduces tumor size.

20 80. A pharmaceutical composition comprising an amount of an antisense polynucleotide that specifically binds to a polynucleotide encoding the mature protein coding portion of SEQ ID NO: 24 in a pharmaceutically acceptable carrier, wherein the amount of anitisense polynucleotide effectively inhibits proliferation of a cancerous cell.